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EXAMINER

SANTIAGO CORDERO, MARIVELISSE

ART UNIT PAPER NUMBER

2687

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,231

Applicant(s)

GEHLOT ET AL.

Examiner

Marivelisse Santiago-Cordero

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “15-3” and “15-4” (paragraph [0071]). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing-sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 15, 20, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Marveli et al. (hereinafter “Marveli”; Patent No.: 5,572,221).

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Regarding claim 1, Marveli discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (Abstract; col. 7, lines 7-15); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 2, lines 52-56; col. 5, lines 60-63; col. 7, lines 7-15).

Regarding claim 15, Marveli discloses the method of claim 1, further comprising the steps of: receiving a plurality of received vectors associated with the mobile unit (Abstract; col. 7, lines 7-31); estimating future location coordinates for the mobile unit based on the plurality of received vectors (Abstract; col. 7, lines 7-31); and retrieving a geographical condition from a database based on the estimated future location coordinates (col. 7, lines 22-31).

Regarding claim 20, Marveli discloses the limitations as stated above for claim 1.

Regarding claim 34, Marveli discloses the limitations as stated above for claim 15.

4. Claims 1-2, 4-5, 20-21, and 23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsumoto et al. (hereinafter "Matsumoto"; Pub. No.: US 2002/0132628).

Regarding claim 1, Matsumoto discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (page 2, paragraph [0031]); and determining whether to perform a handoff of the mobile unit based on the received vector (page 2, paragraphs [0031]-[0033]).

Regarding claim 2, Matsumoto discloses the method of claim 1, further comprising the steps of: transmitting the location vector to the mobile unit (page 2, paragraph [0031]; page 3, paragraph [0041]), wherein the vector includes location and time coordinates (page 2, paragraph

[0031]); and receiving a response from the mobile unit based on the transmitted vector (page 2, paragraph [0031]; page 3, paragraph [0041]).

Regarding claim 4, Matsumoto discloses the method of claim 1 wherein the location vector comprises terrestrial data (page 2, paragraph [0032]).

Regarding claim 5, Matsumoto discloses the method of claim 2, wherein the determining step further comprises the step of determining whether to perform the handoff based on the received response (page 2, paragraph [0031]; page 3, paragraph [0045]).

Regarding claim 20, Matsumoto discloses the limitations as stated above for claim 1.

Regarding claim 21, Matsumoto discloses the limitations as stated above for claim 2.

Regarding claim 23, Matsumoto discloses the limitations as stated above for claim 4.

Regarding claim 24, Matsumoto discloses the limitations as stated above for claim 5.

5. Claims 1, 3-4, 6-9, 11-14, 16-17, 19-20, 22-23, 25-28, 30-33, 35-36, 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Garceran et al. (hereinafter "Garceran"; Patent No.: US 6,522,888).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Garceran discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a

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mobile unit (col. 7, line 46 through col. 8, line 30); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 7, line 46 through col. 8, line 30; col. 9, lines 59-64; col. 14, lines 57-59).

Regarding claim 3, Garceran discloses the method of claim 1, wherein the location vector comprises Global Positioning System (GPS) data (col. 14, line 49-51).

Regarding claim 4, Garceran discloses the method of claim 1, wherein the location vector comprises terrestrial data (col. 14, line 51-57).

Regarding claim 6, Garceran discloses the method of claim 1, wherein the determining step further comprises the step of calculating a magnitude of the received vector, wherein the magnitude corresponds to a coverage area of a base station vector (col. 7, line 46 through col. 8, line 30).

Regarding claim 7, Garceran discloses the method of claim 6, wherein the determining step further comprises the steps of: receiving one or more magnitudes corresponding to coverage areas of one or more other base stations (col. 7, line 46 through col. 8, line 30); comparing the calculated magnitude to the received magnitudes (col. 7, line 46 through col. 8, line 30); and determining that the handoff is necessary when one of the received magnitudes is less than the calculated magnitude (col. 7, line 46 through col. 8, line 30).

Regarding claim 8, Garceran discloses the method of claim 1, further comprising the steps of: receiving a plurality of received vectors associated with the mobile unit (col. 7, line 46 through col. 8, line 30); calculating a magnitude of each of the plurality of received vectors (col. 7, line 46 through col. 8, line 30); combining the calculated magnitudes into a combined

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magnitude (col. 7, line 46 through col. 8, line 30); and determining whether the handoff is necessary based on the combined magnitude (col. 7, line 46 through col. 8, line 30).

Regarding claim 9, Garceran discloses the method of claim 8, wherein the determining step further comprises the step of: receiving one or more magnitudes from one or more other base stations (col. 7, line 46 through col. 8, line 30); comparing the combined magnitude to the received magnitudes (col. 7, line 46 through col. 8, line 30); and determining that a handoff is necessary when one of the received magnitudes is less than the combined magnitude (col. 7, line 46 through col. 8, line 30).

Regarding claim 11, Garceran discloses the method of claim 1, wherein the determining step further comprises the steps of: obtaining service quality data based on the received vector (col. 2, lines 15-28; col. 4, lines 49-62), wherein the service quality data includes at least one of an environmental and geographical condition related to a coverage area of a base station; and determining whether to perform the handoff based on the service quality data (col. 2, lines 15-28; col. 4, lines 49-62).

Regarding claim 12, Garceran discloses the method of claim 11, wherein the obtaining step further comprises the steps of: extracting at least one of a location and time coordinate from the received vector (col. 2, lines 15-28; col. 4, lines 49-62; col. 6, lines 51-62); and retrieving the service quality data from a database based on the extracted information (col. 2, lines 15-28; col. 4, lines 49-62; col. 6, lines 51-62).

Regarding claim 13, Garceran discloses the method of claim 12, wherein the retrieving step further comprises the step of: retrieving a geographical condition from the database based on location coordinates extracted from the received vector (col. 11, lines 10-36), the retrieved

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geographical condition including at least one of: topographical data, structural data, and known reflection path (col. 11, lines 10-36).

Regarding claim 14, Garceran discloses the method of claim 12, wherein the retrieving step further comprises the step of: retrieving an environmental condition from the database based on time information extracted from the received vector (col. 4, lines 49-62; col. 5, lines 24-62), the environmental condition selected from the group consisting of at least: rain, wind, temperature and humidity (col. 4, lines 49-62; col. 5, lines 24-62; note that weather inherently consists of at least: rain, wind, temperature, and humidity).

Regarding claim 16, Garceran discloses the method of claim 1, wherein the received vector further comprises time information (col. 4, lines 6-13).

Regarding claim 17, Garceran discloses the method as in claim 1 further comprising the step of generating the vector at the mobile unit (col. 7, lines 46-60col. 7, lines 46-60).

Regarding claim 19, Garceran discloses the method as in claim 1 further comprising generating the vector at a GPS satellite (col. 6, lines 34-44).

Regarding claim 20, Garceran discloses these limitations as stated above for claim 1.

Regarding claim 22, Garceran discloses these limitations as stated above for claim 3.

Regarding claim 23, Garceran discloses these limitations as stated above for claim 4.

Regarding claim 25, Garceran discloses these limitations as stated above for claim 6.

Regarding claim 26, Garceran discloses these limitations as stated above for claim 7.

Regarding claim 27, Garceran discloses these limitations as stated above for claim 8.

Regarding claim 28, Garceran discloses these limitations as stated above for claim 9.

Regarding claim 30, Garceran discloses these limitations as stated above for claim 11.

Regarding claim 31, Garceran discloses these limitations as stated above for claim 12.

Regarding claim 32 Garceran discloses these limitations as stated above for claim 13.

Regarding claim 33 Garceran discloses these limitations as stated above for claim 14.

Regarding claim 35, Garceran discloses these limitations as stated above for claim 16.

Regarding claim 36, Garceran discloses these limitations as stated above for claim 17.

Regarding claim 38 Garceran discloses these limitations as stated above for claim 19.

6. Claims 1, 3-4, 16-19, 20, 22-23, 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Cohen et al. (hereinafter "Cohen"; Patent No.: US 6,463,265).

Regarding claim 1, Cohen discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (col. 6, lines 24-40; col. 8, lines 12-34); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 6, lines 24-40; col. 8, lines 12-34).

Regarding claim 3, Cohen discloses the method of claim 1, wherein the location vector comprises Global Positioning System (GPS) data (col. 6, lines 26-31).

Regarding claim 4, Cohen discloses the method of claim 1 wherein the location vector comprises terrestrial data (col. 6, lines 26-31).

Regarding claim 16, Cohen discloses the method of claim 1, wherein the received vector further comprises time information (Fig. 2).

Regarding claim 17, Cohen discloses the method as in claim 1 further comprising the step of generating the vector at the mobile unit (Fig. 2).

Regarding claim 18, Cohen discloses the method as in claim 1 further comprising the step of generating the vector at a base station (col. 6, lines 24-40).

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Regarding claim 19, Cohen discloses the method as in claim 1 further comprising generating the vector at a GPS satellite (col. 6, lines 24-40).

Regarding claim 20, Cohen discloses these limitations as stated above for claim 1.

Regarding claim 22, Cohen discloses these limitations as stated above for claim 3.

Regarding claim 23, Cohen discloses these limitations as stated above for claim 4.

Regarding claim 35, Cohen discloses these limitations as stated above for claim 16.

Regarding claim 36, Cohen discloses these limitations as stated above for claim 17.

Regarding claim 37, Cohen discloses these limitations as stated above for claim 18.

Regarding claim 38, Cohen discloses these limitations as stated above for claim 19.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 10 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Jolma (Patent No.: 6,011,971).

Regarding claim 10, Cohen discloses the method of claim 1, further comprising the steps of: receiving a plurality of vectors associated with the mobile unit (col. 6, lines 24-40). Cohen fails to disclose detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates; and performing the handoff when multipath propagation is detected.

However, in a method for controlling handoffs in a wireless communication system (col. 1, lines 8-14), Jolma discloses detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates (from col. 1, line 66 through col. 2, line 6); and performing the handoff when multipath propagation is detected (from col. 1, line 66 through col. 2, line 6).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to detect multipath propagation when at least two of the plurality of received vectors of Cohen include identical location and time coordinates; and performing the handoff when multipath propagation is detected as suggested by Jolma.

One of ordinary skill in this art would have been motivated to detect multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates; and performing the handoff when multipath propagation is detected because typically signals between a base station and mobile station travel by several different paths between the transmitter and receiver due to different delays in propagation time caused by signals reflecting from surrounding surfaces (Jolma: from col. 1, line 66 through col. 2, line 6).

Regarding claim 29, the limitations are rejected for the same reasons and motivations stated above for claim 10.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schipper et al. (Patent No.: 6,038,444) discloses receiving a location vector and performing handoff based on it.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11/18/05


ELISEO RAMOS-FELICIANO
PATENT EXAMINER